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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : Norbert BREUER  
Based on : PCT/DE 03/01934  
For : DEVICE AND METHOD FOR DETERMINING THE STATE  
OF A PARTICLE FILTER

Docket No. : R.303674

Customer No. : 02119

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Date: March 2, 2005

**INFORMATION DISCLOSURE STATEMENT UNDER 37 CFR 1.97(b),  
AND EXPLANATION OF THE RELEVANCE OF THE CITED PRIOR ART**

Sir:

The undersigned hereby requests that the prior art cited on the attached prior art statement be placed of record in the application file and be considered by the examiner.

This citation of prior art is made under 37 CFR 1.97(b), since it is being filed within three months of the filing date and before the mailing of a first Office action.

The relevance of the prior art cited on the attached form 1449 is as follows:

Appl. No. Unknown  
Based on PCT/DE 03/01934  
IDS under 1.97(b)  
Prior to first Office Action

**US 6,269,684 B1**

This patent teaches a dynamic fluid loss cell apparatus and method for measuring filter-cake build-up on a simulated core of the well-bore and for measuring the effectiveness of a spacer fluid to remove filter-cake. There is also provided, a dynamic fluid loss cell apparatus and method for measuring the dynamic fluid loss during the simulated build-up and removal of the filter-cake. The apparatus and method further provides for performing the measurements under various conditions including temperature and differential pressure.

**GB 2 017 916 A**

This patent teaches a method and an apparatus for determining the thickness of the filter cake on a filter element of a filter assembly. A measurement is taken of the reflection time of an ultrasonic oscillation radiated towards the filter element (4) by a radiator (1) and its reflection received by a receiver (1), which may actuate a signal device (6) when the filter cake has attained a predetermined thickness.

**WO 01/43847 A2**

This publication teaches an arrangement for filtering plastic melts. Dirty filter elements (4, 4) can be liberated from collected dirt particles by means of back-washing. The melt (8) used for back-washing is deviated from the main melt flow and can optionally and additionally be impinged upon by conveying elements. A back-wash is periodically initiated according to the time and/or the degree of soiling of the filter element to be cleaned. The aim of the invention is to improve the inventive arrangement in such a way that cleaning is optimal according to the degree of soiling of the filter element to be cleaned respectively. A

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Prior to first Office Action

control device (7) is provided which detects the melt volume and/or the flow rate of the back-washing melt during a back-washing procedure.

**US 2003/0132146 A1**

This published patent application is in the same family as WO 01/43847 A2 and is provided as an aid to the examiner.

**WO 03/013707 A1**

This publication teaches a method for controlling the integrity of hollow fibre filtration units and of detecting leaks through a wholly or partially ruptured fibre. The method is characterized in that it consists in: - emitting a noise or audible signal using an emitter located on one side of the membranes of the filtration units; - detecting the noise or audible signal emerging from a ruptured fibre on the other side of the membranes, regardless of whether or not a fluid is passing through said fibre; - amplifying the signal-noise ratio thus obtained; - and comparing the resulting amplified signal to a threshold noise level in the same frequency range.

**US 2004/0237654 A1**

This published patent application is in the same family as WO 03/013707 A1 and is provided as an aid to the examiner.

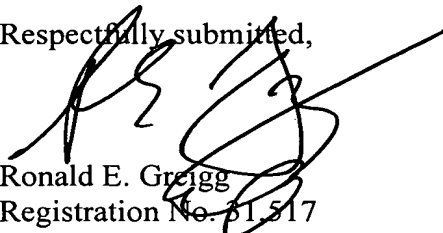
Appl. No. Unknown  
Based on PCT/DE 03/01934  
IDS under 1.97(b)  
Prior to first Office Action

**Takahashi K et al: "Measurement of Cake Thickness on Membrane for Microfiltration of Yeast Using Ultrasonic Polymer Concave Transducer" Journal of Chemical Engineering of Japan, JP, Bd. 224, Nr. 5, 01.10.1991, Seiten 599-603, XP000241639**

According to the teachings of this publication, an ultrasonic measurement method was used to obtain information about the properties of cake formed on a membrane as a result of the micro-filtration of suspensions of yeast. The cake formed was incompressible because the micro-filtration was carried out at a low applied pressure. A spherically concave transducer made of piezoelectric films of vinylidene fluoride-trifluoroethylene copolymer was adopted. The surface shape of the cake was found not to be flat by the reflection technique. An on-line method of measuring cake thickness was developed by using the transmission technique, and the results were in agreement with data reported elsewhere.

Examination of this application is respectfully requested.

Respectfully submitted,

  
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# INFORMATION DISCLOSURE CITATION

(Use several sheets if necessary)

Docket Number (Optional)

R.303674

Application Number

10/526307

Applicant(s)

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B101

IPC/PTC

02 MAR 2005

Filing Date

Group Art Unit

## U.S. PATENT DOCUMENTS

*EXAMINER INITIAL	REF	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
		6,269,684 B1	08-07-2001	Voldi E. MAKI, Jr., et al.			

## U.S. PATENT APPLICATION PUBLICATIONS

*EXAMINER INITIAL	REF	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
		2003/0132146 A1	07-17-2003	Detlef GNEUSS			
		2004/0237654 A1	12-02-2004	Vincent SAVALL et al.			

## FOREIGN PATENT DOCUMENTS

	REF	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	Translation	
							YES	NO
		GB 2 017 916 A	10-10-1979	United Kingdom			✓	
		WO 01/43847 A2	06-21-2001	World IPO			✓	
		WO 03/013707 A1	02-20-2003	World IPO			✓	

## OTHER DOCUMENTS

(Including Author, Title, Date, Pertinent Pages, Etc.)

		Takahashi K et al: "Measurement of Cake Thickness on Membrane for Microfiltration of Yeast Using Ultrasonic Polymer Concave Transducer" Journal of Chemical Engineering of Japan, JP, Bd. 224, Nr. 5, 01.10.1991, Seiten 599-603, XP000241639

EXAMINER	DATE CONSIDERED
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EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP Section 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.